Operating Instructions

STEREO DOUBLE CASSETTE TAPE DECK AMPLIFIER
DC-X88Z

FM/AM DIGITAL SYNTHESIZER TUNER
F-X88Z/F-X88ZL

AM/FM STEREO TUNER
F-X77Z/F-X77ZL

STEREO TURNTABLE
PL-X88Z/PL-X77Z

Thank you for buying this Pioneer product.
Please read through these operating instructions so you will know how to operate your model properly. After you have finished reading the instructions, put them away in a safe place for future reference.
In some countries or regions, the shape of the power plug and power outlet may sometimes differ from that shown in the explanatory drawings. However, the method of connecting and operating the unit is the same.

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

IMPORTANT NOTICE

[For U.S. and Canadian models]
The serial number for this equipment is located on the rear panel. Please write this serial number on your enclosed warranty card and keep it in a secure area. This is for your security.

[For Canadian model]

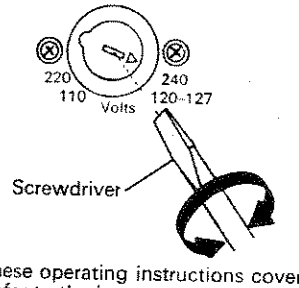
CAUTION: TO PREVENT ELECTRIC SHOCK DO NOT USE THIS (POLARIZED) PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

ATTENTION: POUR PREVENIR LES CHOCS ELECTRIQUES NE PAS UTILISER CETTE FICHE POLARISEE AVEC UN PROLONGATEUR UNE PRISE DE COURANT OU UNE AUTRE SORTIE DE COURANT, SAUF SI LES LAMES PEUVENT ETRE INSEREES A FOND SANS EN LAISSER AUCUNE PARTIE A DECOUVERT.

LINE VOLTAGE SELECTOR SWITCH

Only multi-voltage models are provided with this switch. U.S., Canadian, European, U.K., and Australian models are not provided with this switch.
Before your model is shipped from the factory, the switch is set to the power requirements of the destination; nevertheless, you should check that it is set properly before plugging the power cord into the AC outlet.

1. Disconnect the power cord.
2. Use a medium-size screwdriver.
3. Insert the screwdriver into the groove on the voltage selector and adjust to the voltage value of your area.



These operating instructions cover all the models above. Refer to the items corresponding to your model.

"This product is manufactured to comply with the radio interference requirements of EEC Directive 76/889/EEC and 82/499/EEC."

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The future of sound and vision.

SAFETY INSTRUCTIONS

READ INSTRUCTIONS — All the safety and operating instructions should be read before the appliance is operated.

RETAIN INSTRUCTIONS — The operating instructions should be retained for future reference.

HEED WARNING — All warnings on the appliance and in the operating instructions should be adhered to.

FOLLOW INSTRUCTIONS — All operating and use instructions should be followed.

WATER AND MOISTURE — The appliance should not be used near water — for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc.

LOCATION — The appliance should be installed in a stable location.

WALL OR CEILING MOUNTING — The appliance should not be mounted to a wall or ceiling.

VENTILATION — The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or, placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.

HEAT — The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.

POWER SOURCES — The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.

POWER-CORD PROTECTION — Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.

POLARIZATION — If your purchased product is provided with a polarized power plug, please read the following instructions. This product is equipped with a polarized alternating current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.

CLEANING — The appliance should be cleaned only with a polishing cloth or a soft dry cloth. Never clean with furniture wax, benzine, insecticides or other volatile liquids since they may corrode the cabinet.

POWER LINES — An outdoor antenna should be located away from power lines.

NONUSE PERIODS — The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.

OBJECT AND LIQUID ENTRY — Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.

DAMAGE REQUIRING SERVICE — The appliance should be serviced by Pioneer authorized service center or qualified service personnel when:

- The power-supply cord or the plug has been damaged; or
- Objects have fallen, or liquid has been spilled into the appliance; or
- The appliance has been exposed to rain; or
- The appliance does not appear to operate normally or exhibits a marked change in performance; or
- The appliance has been dropped; or the enclosure damaged.

SERVICING — The user should not attempt to service the appliance beyond that described in the operating instructions. For all other servicing, contact the nearest Pioneer authorized service center.

OUTDOOR ANTENNA GROUNDING — If an outside antenna is connected to the antenna terminal, be sure the antenna system is grounded so as to provide some protection against voltage surges and built up static charges.
In the U.S.A. section 810 of the National Electrical Code, ANSI/NFPA No. 70-1984, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Fig. A.

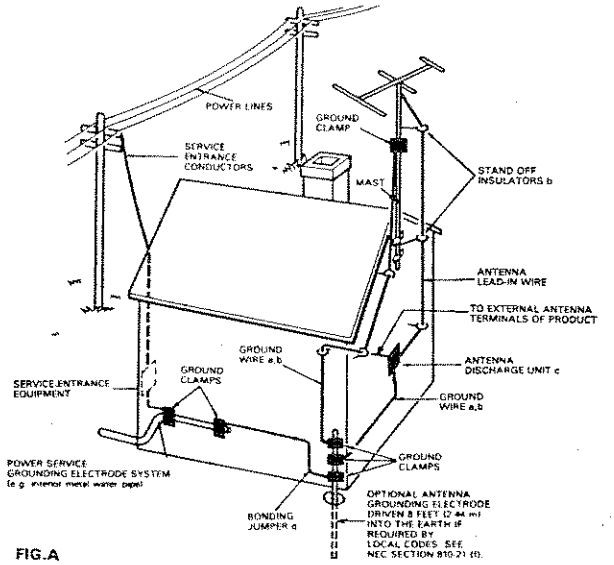

POWER LINES
GROUND CLAMP
SERVICE ENTRANCE CONDUCTORS
MAST
STAND OFF INSULATORS b
ANTENNA LEAD-IN WIRE
TO EXTERNAL ANTENNA TERMINALS OF PRODUCT
ANTENNA DISCHARGE UNIT c
GROUND WIRE a,b
GROUND WIRE a,b
GROUND CLAMPS
SERVICE ENTRANCE EQUIPMENT
GROUND CLAMPS
POWER SERVICE GROUNDING ELECTRODE SYSTEM (e.g. interior metal water pipe)
BONDING JUMPER d
OPTIONAL ANTENNA GROUNDING ELECTRODE DRIVEN 8 FEET (2.44 m) INTO THE EARTH IF REQUIRED BY LOCAL CODES. SEE NEC SECTION 810-21 (f).

FIG.A

a) Use No. 10 AWG (5.3 mm²) copper, No. 8 AWG (8.4 mm²) aluminum, No. 17 AWG (1.0 mm²) copper-clad steel, bronze wire, or larger as ground wire.
b) Secure antenna lead-in and ground wires to house with stand-off insulators spaced from 4 feet (1.22 meters) to 6 feet (1.83 meters) apart.
c) Mount antenna discharge unit as closely as possible to where lead-in enters house.
d) Use jumper wire not smaller than No.6 AWG (13.3 mm²) copper or equivalent when separate antenna-grounding electrode is used.

IMPORTANT 1

The lightning flash with arrowhead, within an equilateral triangle, is intended to alert the user of the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

CAUTION:
TO PREVENT THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The exclamation point within an equilateral triangle is intended to alert the user of the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

IMPORTANT 2

If the apparatus is fitted with AC mains power outlet(s), see REAR PANEL FACILITIES for convenient connection of additional Hi-Fi component(s). Make all connections to the AC outlet(s) and the signal terminals first. Connect the plug to the wall socket last, make sure that the power switch is off. Disconnect the wall plug when the equipment is not in (regular) use, e.g. when on vacation.

FOR USE IN THE UNITED KINGDOM

The wires in this mains lead are coloured in accordance with the following code:

Blue:	Neutral
Brown:	Live

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured marking identifying the terminals in your plug proceed as follows:
The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.
The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

Equipment sold in the U.K. is not supplied with a power plug.

FEATURES

Double deck configuration
The double deck configuration, with one deck for playback only and the other for both recording and playback, provides lots of fun with its double speed copying and relay play functions.

5-control graphic equalizer
The graphic equalizer with its 5 controls allows the listener to adjust the sound quality optimally.

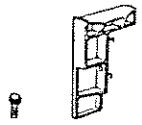
Remote control unit
The remote control unit enables the listener to control all the major functions of the cassette tape deck amplifier, tuner and CD player.

24-station random FM/AM presetting
A total of up to 24 FM and AM stations can be preset in order to facilitate instant recall of your favorite stations in areas where the frequency bands are crowded with stations. On models provided with the LW tuning band, a total of 24 FM, MW and LW stations can be preset.

FM MONO switch
When the FM MONO switch is set to on, those stereo broadcasts that are drowned out by noise can be tuned in with greater clarity. The FM MONO reception mode can be preset for individual broadcasting stations.

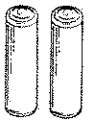
CHECKING THE ACCESSORIES

Cassette deck amplifier



Turntable legs ... 2
Screws 2

Remote control Unit 1



Size "AAA" (IEC R03) 1.5 V (UM-4) dry cell batteries 2

FM/AM Tuner

AM loop antenna 1

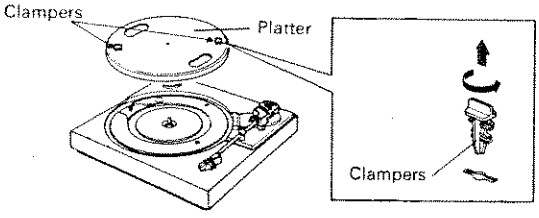
T-type antenna 1

INITIAL TURNTABLE SET-UP

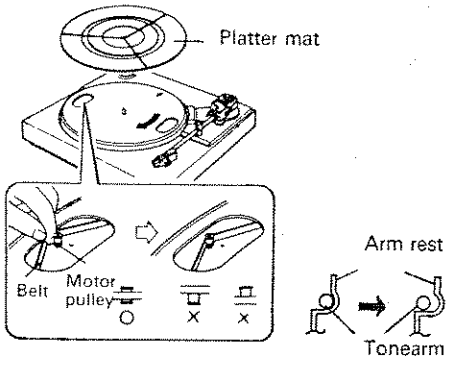
1. Check accessory items and attaching pieces.

EP Adaptor Platter mat

2. Remove the 2 clampers and lift off the platter. To remove the clampers, twist them in the direction indicated in the illustration, and lift them straight up.



3. Hook the turntable drive belt over your finger.
4. Set the platter onto the turntable so that the platter shaft passes through it. Hook the drive belt over the motor pulley. Rotate the platter a few times by hand to make sure that the belt is correctly in place.



5. Place the platter mat on top of the platter.
6. Remove the band securing the tonearm.
7. Disconnect the tonearm from the arm rest.
8. Remove the stylus guard.

REAR PANEL FACILITIES (DC-X88Z, F-X88ZL)

TUNER input/output cord
Connect to the TUNER jack of the deck amplifier.

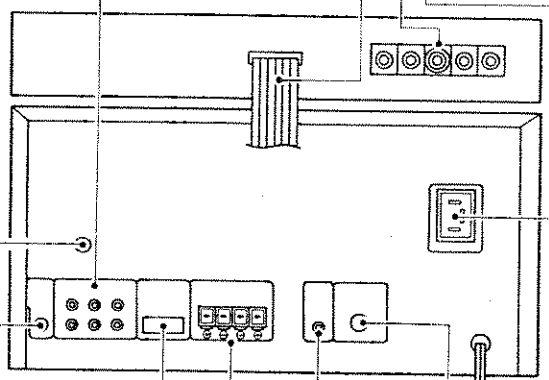
INPUT jack
PHONO: Connect the output cord on the turntable to these jacks.
CD: Connect the output cord on the compact disc player to these jacks.
VIDEO: Connect the audio output cord of the LaserVision player (Video disc player) or hi-fi VCR to these jacks.

TURNTABLE OUTPUT jack
This jack supplies power to the PL-X88Z or PL-X77Z.

FM/AM antenna terminals
Antennas must be connected to these terminals; otherwise you will not be able to receive stations. See page 6 for details on antenna connections.

NOTE:
These terminals are on the left on models F-X77ZL and F-X77Z.

AC OUTLET (SWITCHED)
Power supplied through these outlets is turned on and off by the deck amplifier's POWER switch. Total electrical power consumption of connected equipment should not exceed 100 W.
NOTE:
Do not connect appliances with high power consumption such as heaters, irons, or television sets to the AC OUTLETS in order to avoid overheating or fire risk.
This can cause this equipment to malfunction.



Ground terminal (GND)
Connect this to the ground terminal on the turntable (except for PL-X88Z and PL-X77Z).

Power cord
Connect this to the AC wall socket.

TUNER jacks
Connect the F-X88Z (L) or F-X77Z (L) FM/AM tuner.

SPEAKERS terminals
L: Connect the left speaker system as seen from the listening position.
R: Connect the right speaker system as seen from the listening position.

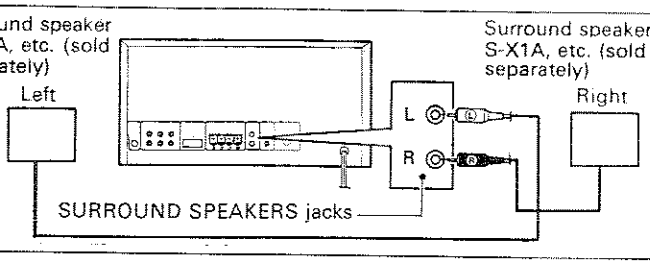
NOTE:
Speaker impedance:
Connect a speaker system having a nominal impedance ranging from 6 ohms to 16 ohms.

MAIN POWER switch
(Only U.K., Australian and European models)
[ON]
While this unit is in a standby status and the power cord is connected to the wall socket, the circuit of the unit will operated continuously. When not using the unit for a long period, either switch the unit OFF, or remove the power cord from the power socket.
[OFF]
When the switch is OFF, the power to the unit will be cut off.

Remote control output jack
Connect this jack to the CONTROL IN jack of a CD player provided with a PIONEER CONTROL IN jack.
- This jack enables the remote control unit provided with the deck amplifier to exercise central control over the CD player.

Pre-caution
Don't connect to TURNTABLE OUTPUT jack.

Connecting Surround speaker systems
Illustration not applicable to the U.K., European, Australian, and U.S. models.

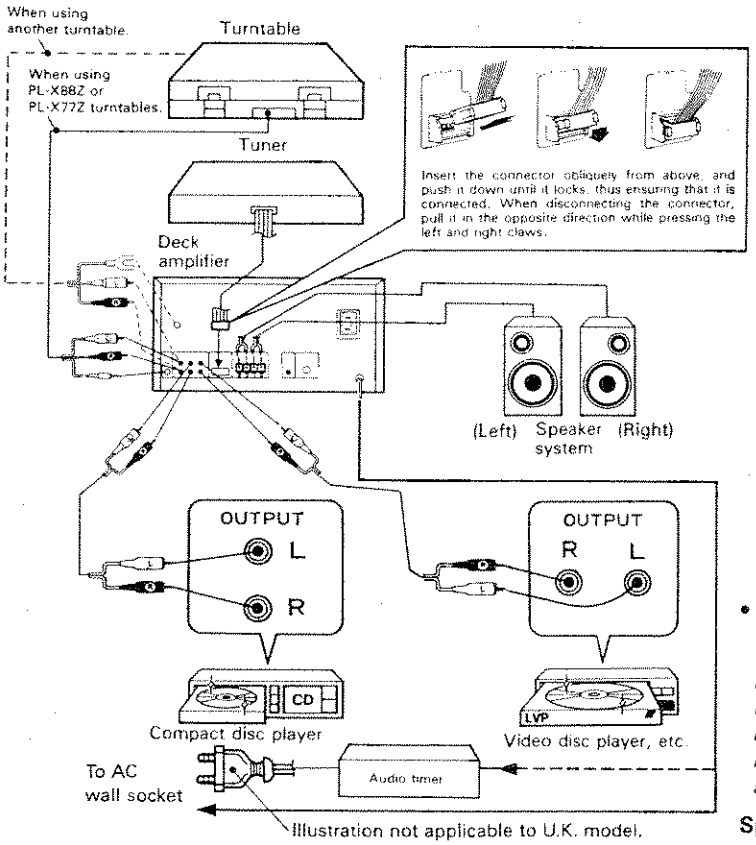


CONNECTIONS

Proceed as follows with the set-up and connections.

1. Place the tuner on top of the cassette tape deck amplifier.
2. Connect the tuner to cassette tape deck amplifier.
3. Connect the FM antenna and the AM antenna to the tuner's antenna terminals. (See page 6)
   If the model has an AM/FM CHANNEL STEP switch, check whether it is positioned properly.
4. Attach the turntable legs at the left and right of the cassette tape deck amplifier's rear panel.
5. Place the turntable on top of the tuner.
6. Connect the turntable's output cords to the cassette tape deck amplifier's PHONO jacks. If any other stereo component is to be used, connect it in the same way to the CD or VIDEO jacks.
7. Connect the speaker cords to the SPEAKERS terminals.
8. Finally, connect the power cord the the AC wall socket.

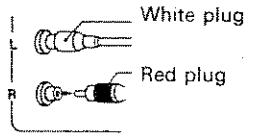
Plug the power cord into the AC wall socket outlet only after all the connections have been completed. Keep the power switch at the OFF position.


When using another turntable.
Turntable
When using PL-X88Z or PL-X77Z turntables.
Tuner
Deck amplifier
Insert the connector obliquely from above, and push it down until it locks, thus ensuring that it is connected. When disconnecting the connector, pull it in the opposite direction while pressing the left and right claws.
(Left) Speaker system (Right)
OUTPUT
L
R
OUTPUT
R L
CD
Compact disc player
LVP
Video disc player, etc.
To AC wall socket
Audio timer
Illustration not applicable to U.K. model.

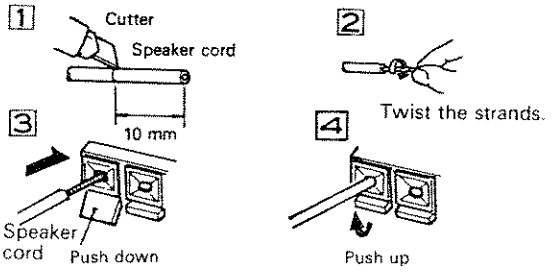
Connecting the input/output cords

- Insert the plugs securely into the jacks. Improper connection can lead to sound distortion or malfunctioning.
- The white plug is for the left channel connection and the red plug for the right channel connection.

Be sure to insert the plugs all the way.



Connecting the speaker cords



- Check that the speaker cords are secure and will nt become disconnected.

NOTE:
Do not allow the conductors of the cords to project beyond the terminals and to come into contact with other conductors. A breakdown or failure may occur when conductors touch one another.

Speaker impedance

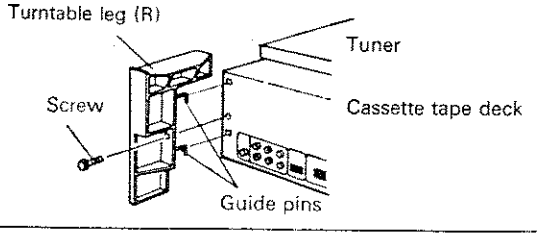
Connect speaker systems with a nominal impedance of between 6 and 16 ohms.

Attaching the legs of the turntable

Attach the legs accompanying the turntable to the rear panel of the cassette deck amplifier.

- Be sure to attach the left (L) and right (R) legs to their proper positions.

1. Insert the guide pins on the legs into the holes in the back of the cassette deck amplifier.
2. Fasten the legs in place with the screws provided.
3. After connecting the antenna, mount the turntable securely on top of the legs.



ANTENNA CONNECTIONS

Radio reception is not possible unless the antenna is properly connected.

The strength of broadcast signals varies from one area to another (signal propagation is especially poor in metropolitan areas, where there are many tall buildings, and in mountainous areas). Proper antenna installation is vital to good reception.

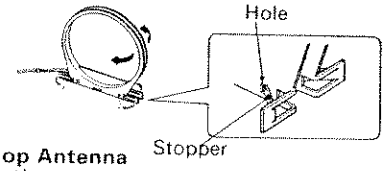
AM ANTENNA

The AM loop antenna supplied with the tuner should be connected to the AM antenna terminals. The antenna should be placed at a distance from the tuner, and should not be allowed to touch metallic objects. Avoid placing it near CD players, personal computers, television sets, and other devices generating radio frequencies.

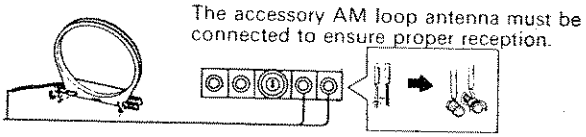
Setting Up the AM Antenna

- Fold out the supports on the bottom of the antenna. Insert the stopper in the hole in the antenna to lock them in place.
- Place the antenna on a level surface and rotate it to locate the orientation that yields the best reception.

AM Loop Antenna Set-up



AM Loop Antenna Connection



External AM antenna

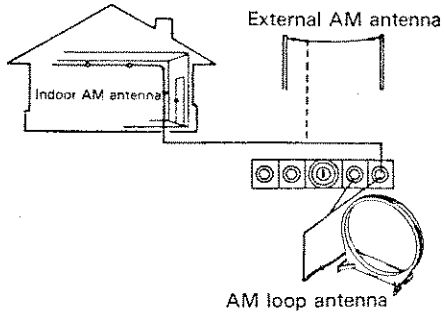
Indoor AM antenna

Provide a vinyl-coated wire (5 to 6 meters long). Secure one end to the AM terminal and the other end to a wall or other high location.

External AM antenna

If reception is still poor even when a lead antenna has been stretched out indoors, stretch out a vinyl-coated wire and secure it indoors.

Connecting the external AM antenna



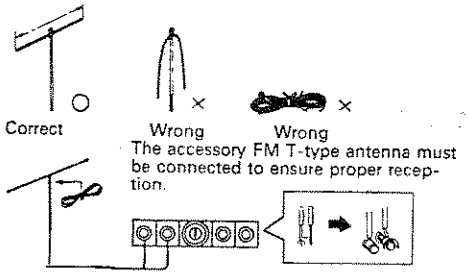
NOTE:
Do not detach the AM loop antenna when using the external AM antenna.

FM ANTENNA

FM T-type Antenna Attachment

Connect the accessory FM T-type antenna to the FM terminals. Stretch the antenna out to its full length, and affix it to a wall, etc.

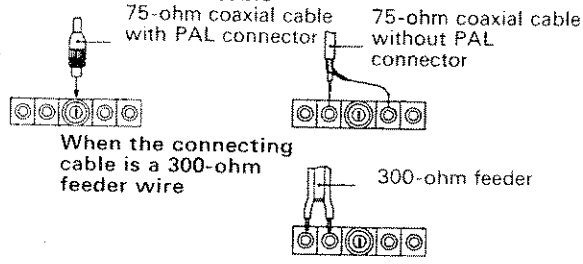
Stretch out both ends.



External FM antenna installation

Use an external antenna when the signals from the station are weak and cannot be picked up by the accessory T-type FM antenna, or when the sound heard is accompanied by large amounts of noise. There are two ways of connecting the external FM antenna to the ANTENNA terminals: with 300-ohm feeder wire, or with a 75-ohm coaxial cable.
It is recommended that you use the 75-ohm coaxial cable, so that the effects of extraneous noise are reduced to a minimum.

When the connecting cable is a 75-ohm coaxial cable


75-ohm coaxial cable with PAL connector
75-ohm coaxial cable without PAL connector
When the connecting cable is a 300-ohm feeder wire
300-ohm feeder

AM/FM CHANNEL STEP SWITCH (F-X88Z only)

This switch is not provided on models for use in Europe, North America, or Australia. (Provided only on models stamped "Z/E" on packing case.)
The AM/FM channel step switch is located on the rear panel of the digital synthesizer tuner. Before the tuner leaves the factory, this switch is set to the channel allotment plan of the area in which the tuner is sold. When the TUNING switch is given a single push, the frequency display will change in the following units.

Model destination	CHANNEL STEP switch position	Frequency change	
		FM mode	AM mode
North America and Continental South America	100 kHz/10 kHz	100 kHz	10 kHz
Other countries	50 kHz/9 kHz	50 kHz	9 kHz

NOTE:

- *If the switch is set to the wrong position, correct tuning will not be possible.*

Consult your dealer if you are not sure about the channel allotment plan in your area.

FRONT PANEL FACILITIES

Cassette deck amplifier

VOLUME/BALANCE indicator
This normally indicates the output level. It switches to display the balance when the balance is adjusted.

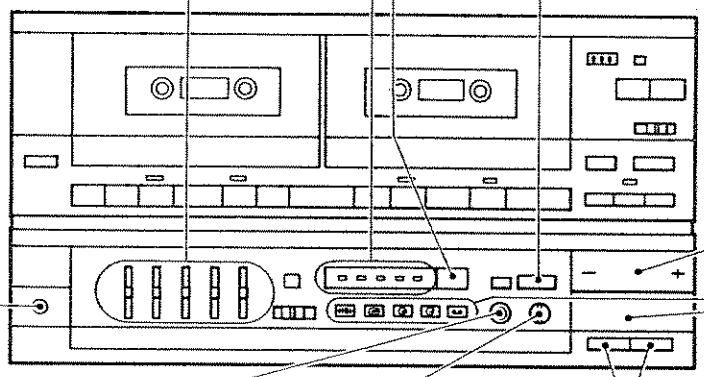
REMOTE SENSOR window

VOLUME switch
Press the "–" or "+" switch to control the volume.
+: Used to increase the volume.
–: Used to reduce the volume.

Graphic equalizer controls (GRAPHIC EQUALIZER)
Fine adjustments in sound quality are possible using the 5 controls on the graphic equalizer.

SURROUND switch
This is not provided on models destined for the European continent, the U.K., Australia and North America.
By using this function, the sounds from stereo source will be given new breadth, reproducing the effect of concert hall presence.

NOTE:
Surround has no effect on monaural sources (AM broadcasts, etc.).



Headphone jack (PHONES)
For miniature stereo phone plug.

BALANCE switches
L: Used to reduce the sound from the right speaker.
R: Used to reduce the sound from the left speaker.
L/R: When both switches are pressed, the sound is instantly returned to its normal (center) setting.

MIC jack
This is a standard jack for connecting the microphone.

FUNCTION switch/indicator
This is used to select the sound source which is to be delivered through the speakers or the source which is to be recorded. Every time it is pressed, the functions are selected successively as follows:

TUNER → VIDEO → CD → PHONO → TAPE →

TUNER ( ): Used to listen to radio broadcasts.
VIDEO ( ): Used to listen to a video component (LaserVision player or hifi VCR) connected to the rear panel VIDEO jacks.
CD ( ): Used to listen to compact discs.
PHONO( ): Used to listen to records on a turntable.
TAPE ( ): Used to listen to tapes.

While recording is taking place, these function switches are inoperative.

MIC MIXING control
This is used to adjust the proportion of the microphone volume and volume of the other sound source for mixing.

- This unit is provided with an automatic tape selector function.
- Tapes can be played back on deck I; tapes can be played back and recorded on deck II.
- Sound can be recorded with the quality which has been adjusted by the graphic equalizer.

REVERSE MODE switch

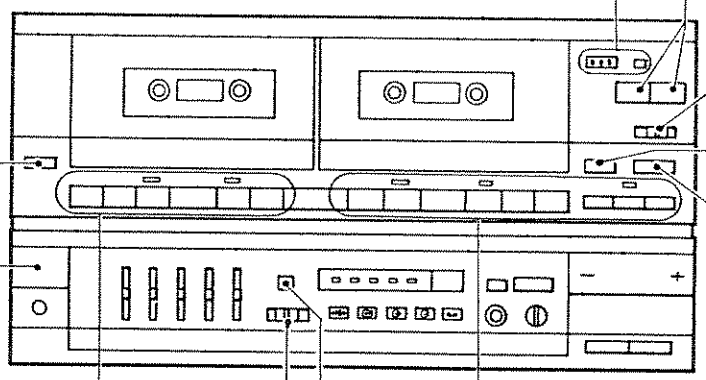
Switch position	During playback	During recording
RELAY PLAY	Deck ⇄ Deck II	———
⇄	Single-side playback	Single-sided recording
⊂⊃	Continuous playback	Double-sided recording

Continuous playback is automatically stopped after 6 round trips.

TAPE COUNTER (Record/play deck)
3-digit display measures tape travel on record/play deck.

TAPE COUNTER reset button

SYNCHRO COPY switches
Press to set the copy mode.
NORMAL .... Permits you to listen to playback normally during dubbing (normal speed copying)
HIGH .... High speed dubbing (double-speed, half-time copying)



EJECT button
[PLAY DECK]
Push to open the cassette door

EJECT button
[REC & PLAY DECK]
Push to open the cassette door

POWER STAND-BY/ON switch
When this switch is pressed, power is supplied to the unit. Press the switch again to turn power off.

Deck I Operation switches
▶▶FAST .... Fast forward in forward mode, rewind in reverse mode.
▶PLAY .... For playing back a tape in the forward mode.
■STOP .... For stopping the tape.
◀PLAY .... For playing back a tape in the reverse mode.
◀◀FAST .... Rewind in forward mode, fast forward in reverse mode.

Deck II Operation switches
○REC MUTE .... For creating the blanks of the appropriate length between tape programs
● REC .... Record
▮▮ PAUSE .... Temporarily stops tape travel. Cancels pause mode when pressed again.
▶▶FAST .... Fast forward in forward mode, rewind in reverse mode.
▶PLAY .... For playing back a tape in the forward mode.
■STOP .... For stopping the tape run.
◀PLAY .... For playing back a tape in the reverse mode.
◀◀FAST .... Rewind in forward mode, fast forward in reverse mode.

TIMER switch
Use only when performing unattended recording or wake up playback. Normally, leave in the OFF position.

Dolby NR switch
Set this switch to the ON position to activate the noise reduction system.
- Tapes recorded using Dolby B NR noise reduction should always be played back with the noise reduction system on. Sound quality will be adversely affected if they are played back with the system off, or if tapes recorded using a different noise reduction system are played back with the Dolby B NR system on.
- It is recommended that tapes recorded using Dolby B NR be so marked on the label. This will help to prevent incorrect setting of the noise reduction switch during playback.

Noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"Dolby" and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.

POWER STAND-BY indicator
When the unit is in a standby status, the indicator is lit. When power is supplied to the unit, the indicator goes out.

Tuner: F-X88Z/F-X88ZL

FM MONO switch/indicator
Normally this is set to the off position (the FM MONO indicator goes off). When noise spoils the reception of an FM program, press the switch to the on position (the FM MONO indicator will now light).
The program of an FM stereo broadcast will be heard in mono.
The setting of the FM MONO switch (on or off) is memorized along with the station's frequency in the STATION CALL switches.
When using the preset tuning feature, reception will be in the mode selected when the station was memorized.
This switch will not function for AM (MW or LW) reception.

SELECT (1–12/13–24) switch/indicator
This switch is used to select the STATION CALL switches to Mode 1 (1—12) or Mode 2 (13—24). Mode 2 (13—24) is obtained when the switch is pressed and select indicator is lit.

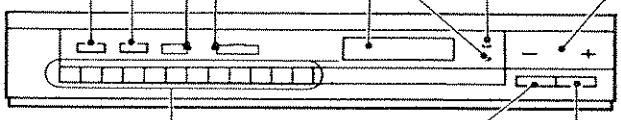
NOTE:
Changing the position of this switch has no effect on receiver performance itself.

FREQUENCY display
Permits reading the received frequency at a glance from the displayed figure. The FM band is indicated by MHz, and the AM (MW or LW) band by kHz.

TUNING switch
This is used to locate the stations.
Push either side of this switch; the left side "–" to go to a lower, and the right side "+" to go to a higher frequency.

STEREO indicator
This lights when a stereo program has been picked up during an FM broadcast.

TUNED indicator
This lights to indicate when the finest tuning of a station has been achieved.



STATION CALL switches
These are used to recall preset broadcasting stations and to preset the station.

MEMORY switch
This switch is used to memorize stations. When the switch is pressed, the frequency indicator will flash. To memorize the frequency of any station, press the station call switch while the memory indicator is lit.

BAND SELECTOR switch
[For model F-X88Z]
Each time this switch is pressed, FM or AM reception is selected alternately.
FM and MHz light: FM reception
AM and kHz light: AM reception
[For model F-X88ZL]
Each time this switch is pressed, FM, MW or LW reception is selected alternately.
FM and MHz light: FM reception
AM and kHz light: MW or LW reception

Tuner: F-X77Z/F-X77ZL

TUNED indicator
This lights up to indicate when finest tuning of a station has been achieved.

POWER indicator

Dial pointer

Function switch
MW: Push to receive MW band broadcasts.
LW: Push to receive LW band broadcasts.
FM: Push to receive FM band broadcasts.

Only AM/FM switching is available for model F-X77Z.

NOTE:
The illustration is of the model for use in continental Europe and the U.K.

STEREO indicator
This lights when a stereo program has been picked up during an FM broadcast.

Tuning knob
Rotate this knob to pick up stations.

Turntable: PL-X88Z/PL-X77Z

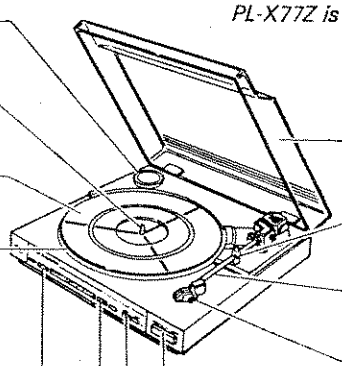
NOTE:
PL-X77Z is not equipped with disc size switch.

EP adaptor

Platter shaft

Platter mat

Platter



Dust cover

Arm rest

Tonearm

Cartridge

SPEED switch
Set this switch in accordance with the speed of the record.
33: For 33-1/3 rpm records. 45: For 45 rpm records.

DISC SIZE switch (only PL-X88Z)
Set this switch in accordance with the size of the record.
30: For 30 cm LP records. 17: For 17 cm EP records.

START/STOP switch (only PL-X88Z)
Press this switch when starting auto play or when stopping play.

NOTE:
Be sure to press the switch firmly when starting playback; if not pressed firmly, the platter may rotate without the tonearm moving.

CUT switch (only PL-X77Z)
Press this switch when stopping play.

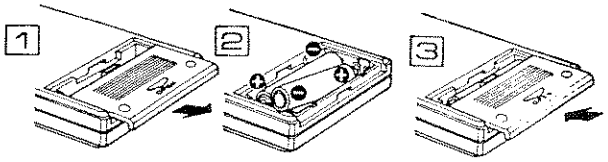
ARM ELEVATION switch
- Use the switch for manual play.
- Use the switch to suspend record play temporarily.
- Use the switch when changing the tracks during actual play.

[UP]: The tonearm rises (the stylus moves away from the record).
[DOWN]: The tonearm descends (the stylus is lowered onto the record).

REMOTE CONTROL UNIT

Put Batteries into Remote Control Unit

1. Open the rear cover.
2. Install batteries making sure that the ⊕ ⊖ polarity is correct.
3. Close the cover.

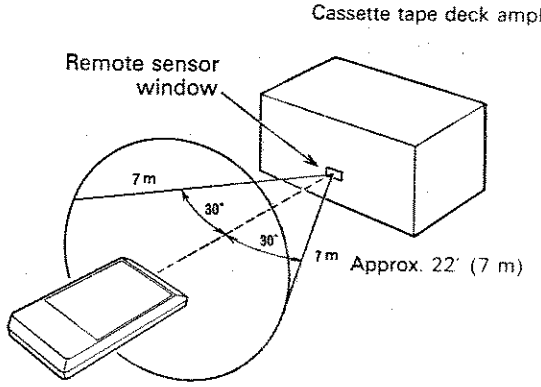


Cautions for handling dry batteries.

Misusing dry batteries can result in electrolyte leakage or explosions. Bear in mind the following points for getting the most out of your batteries.

- When loading the batteries into the battery compartment, make sure the plus ⊕ and minus ⊖ polarities correspond to the markings on the compartment.
- Even though they may be the same shape, batteries come with different voltage ratings. Do not mix or use different types of batteries together. Use only the same kind of batteries.
- Do not mix up new batteries and used batteries but replace all the batteries at the same time.
- Do not heat up, disassemble or shortcircuit batteries or throw them into a fire.
- Some batteries are rechargeable while others are not. Observe the cautionary notes on the batteries and use them properly.

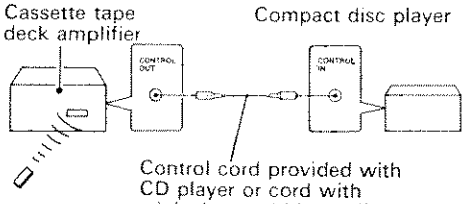
When the remote control unit is pointed at the remote control sensor window on the deck amplifier and any of its keys is pressed, the unit and other components can be operated by remote control.
Distance: Within a range of about 7 meters from the unit's remote control sensor window
Angle: Within approx. 30 degrees from the center of the unit's remote control senser window.
Remote control will not be possible if there is an obstacle between the remote control unit itself and the unit's remote sensor window.



Range of remote control

CD keys

Perform the following connections so that the CD player is operated by the remote control unit.


Cassette tape deck amplifier
Compact disc player
CONTROL OUT
CONTROL IN
Control cord provided with CD player or cord with mini-plugs sold by audio dealer

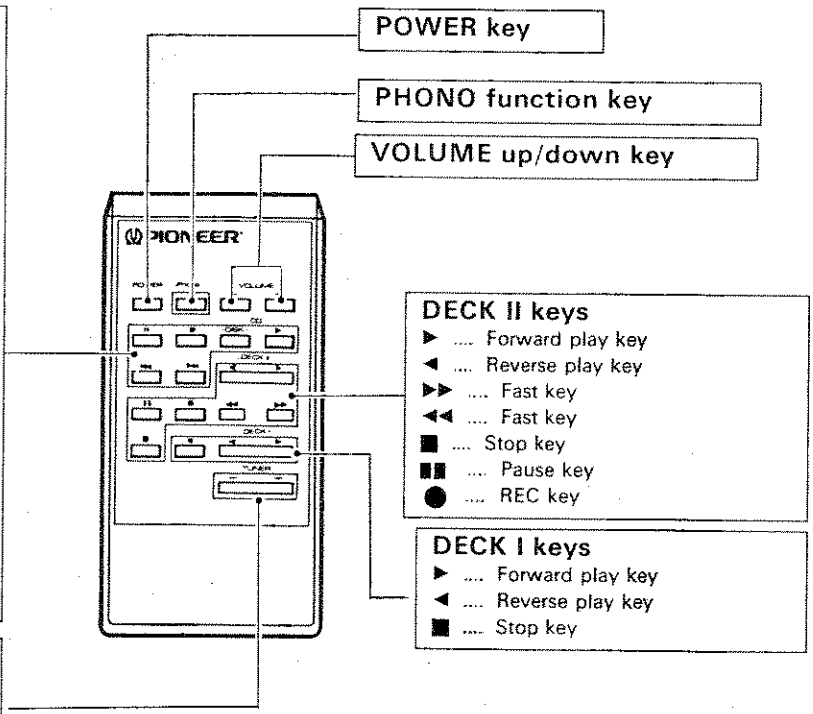
Caution: Don't connect control cord into TURNTABLE OUTPUT jack.

► .... Play key
DISC .... DISC selector key
■ .... STOP key
▮▮ .... Pause key
|◀◀, ▶▶| .... Track search key

NOTE:
Note that the DISC selector key on the accessory remote control unit may not function, depending on the CD player used.

TUNER key

"–" "+" These are used when recalling stations which have been preset in the STATION CALL switches. Every time "+" is pressed, the station numbers can be recalled individually in ascending order; when "–" is pressed, they can be recalled in descending order.



- The CD, DECK II and DECK I play key as well as the TUNER key have an automatic function which also switches the function simultaneously.
- If you press the play key of the CD keys while DECK II is in a REC PAUSE status, the pause will be cancelled, and recording can then take place.

HOW TO HANDLE CASSETTE TAPES

Bear in mind the following points before loading cassette tapes.

Is the tape loose, or is some of the tape outside the cassette?

If some of the tape is projecting outside the cassette shell or if it is loose, it may not enter between the capstan and pinch roller. This will prevent the tape from being supplied or damage the tape itself. In cases like these, insert a pencil into the reel hole and take up the slack. (Fig. A)

Some cassette tapes come with a plastic or thick paper stopper which prevents tape slack. Remove this stopper when loading the tape and replace it after having used the cassette.

What are the accidental erasure prevention tabs for?

A cassette is provided with these tabs so that important or otherwise valuable recordings will not be erased accidentally. When the tab (Fig. B) on the cassette shell is broken out with the tip of a screwdriver, it will not be possible to activate the recording function even by pressing the recording (REC) switch, so valuable recordings will not be erased in error.

To re-record on a cassette whose tabs have been broken out, simply stick a piece of doubled adhesive tape over the tab areas, as shown in Fig. C.

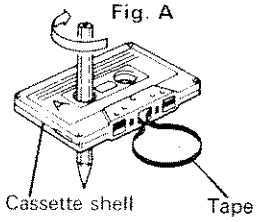
NOTE:
The accidental erasure prevention tabs are located at the top left on both sides A and B (1 or 2), so that material on each side can be prevented from being erased in error.

Tips on using cassette tapes

- Leader tape (which does not allow sound to be recorded over it) is provided at the beginning of a cassette tape. Start recording after allowing the tape to run for about 5 seconds so that the leader tape clears the recording head.
- Do not leave a cassette tape exposed to the environment. Store the cassette in its case so that dust and dirt do not adhere to the tape after use, and so that the tape is prevented from becoming slack. Choose a location which is not exposed to the effects of magnetism, dust, dirt and oil for storing the tapes.
- Because C-120 tapes are so thin, they easily jam in the pinch roller and capstan, and they are susceptible to other trouble such as irregular winding. Try not to use them with this unit.

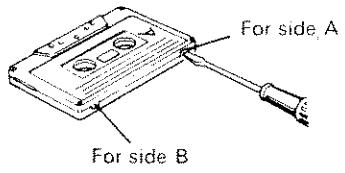
How to take up tape slack

Fig. A



How to prevent already recorded tapes from being erased

Fig. B

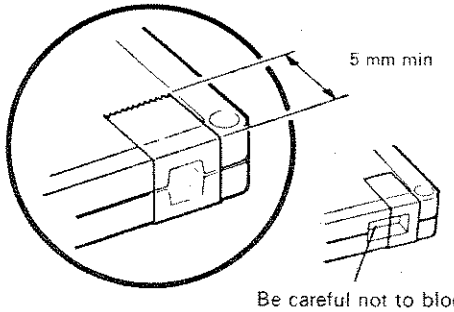


NOTE FOR RE-RECORDING ON A CASSETTE TAPE WHICH HAS A BROKEN TAB

Fig. C

CORRECT METHOD OF APPLYING TAPE

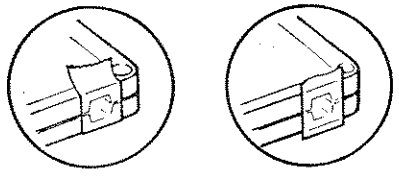
- Apply two layers of cellophane tape.
- Apply the tape taut so that it does not rise up.



Be careful not to block the tape identification detection hole (metal or chrome tape).

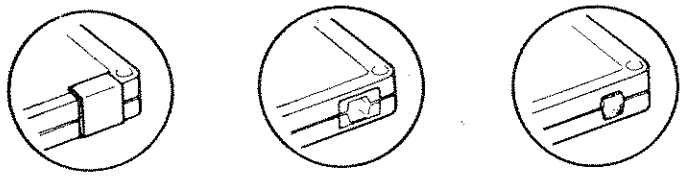
INCORRECT METHOD OF APPLYING TAPE

THIS MAY RESULT IN AN ACCIDENT



Curled tape

Protruding tape



Applying vinyl tape, gum tape, or other tape apart from cellophane tape.

Applying top portion only.

Insertion of an eraser, or the like.

After removing the cellophane tape, completely wipe away all traces of paste. Use only alcohol or benzine.

GRAPHIC EQUALIZER CONTROLS

The advantage of the GRAPHIC EQUALIZER over conventional tone controls is that with the five controls of the GRAPHIC EQUALIZER it is possible to control five different narrow, distinct sections of the audio band width by up to ±8 dB. With conventional tone controls a setting for a bass or treble boost or cut will also affect the lower or upper mid frequencies. The frequency bands controlled by the five slide controls have been chosen to yield the maximum possible control action within the audio spectrum.

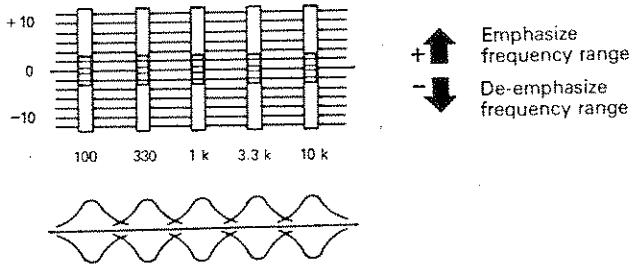
100 Hz: The 100 Hz control is very useful in enhancing low bass notes as in organ music.

330 Hz: The 330 Hz control will allow you to vary the upper bass frequencies.

1 kHz: The 1 kHz control is the presence control and can be used very effectively to emphasize, or de-emphasize vocalists.

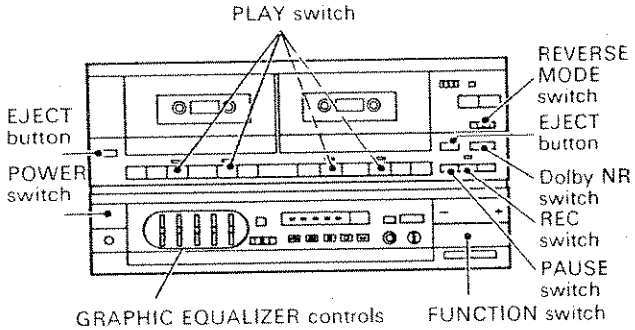
3.3 kHz: The 3.3 kHz control will add brilliance and clarity to brass instruments and violins.

10 kHz: The 10 kHz control can be used to make up for missing high frequencies absorbed by the environment and to add a natural crispness to music.



BASIC OPERATIONS

CASSETTE DECK AMPLIFIER



For models destined for U.K., Australia, and the European continent, press the rear MAIN POWER switches.

- Set the cassette deck amplifier's POWER switch to on.
- Adjust the volume with the VOLUME control and tone with the GRAPHIC EQUALIZER controls on the cassette tape deck amplifier.

TAPE PLAY

Tapes may be played back in deck I or deck II but not in both decks at the same time.

1 Press the EJECT button, and load a tape which has already been recorded.

2 Press the FUNCTION switch and set it to TAPE.

3 Set the DOLBY NR switch to the desired position.

4 Select the REVERSE MODE switch.

5 Press the PLAY switch (► or ◄).
Press the PLAY switch of the deck into which the cassette has been loaded.

RECORDING ONTO A CASSETTE TAPE

Material can be recorded on deck II only. Recording is not possible on deck I. You can make a recording of a source which has passed through the graphic equalizer.

1 Press the EJECT button, and load the tape for recording into deck II.

2 Set the DOLBY NR switch to the desired position.
- A tape which has been recorded using the Dolby NR system must be played back using the same system.

3 Select the REVERSE MODE switch.

4 Use the FUNCTION switch to locate the program source which is to be recorded and play that source.

Program source	Selected indicator display	Operation
Radio broadcast (air check)	TUNER	Tuning into a broadcast
Equipment which is connected to the VIDEO terminal	VIDEO	Operating equipment which is connected to the VIDEO terminal
Compact disc	CD	Playing a compact disc
Turntable	PHONO	Operate the turntable
Tape	TAPE	Playing a tape in deck I

5 Adjust the graphic equalizer controls when changing the sound quality and recording the resulting sound.

6 Press the REC switch (●).
- The recording indicator now lights.
- The play indicator is now flashing.

7 Press the PLAY switch (► or ◄).

Auto reverse function

This unit uses rotary type recording and playback heads, and the same heads are used in both the forward and reverse directions. Tape end detection is employed to control auto reverse operation which takes place about 2 seconds after the tape is taken up.

NOTE:
A leader tape having a length equivalent to about 5 seconds is attached to an ordinary cassette tape. This means that for two-way travel of the leader tape there will be a break of about 12 seconds in the sound. Be very careful of this, particularly when making a two-way recording.

Pausing and restarting recording

8 Press the PAUSE (■■) switch.
- Recording will be suspended.

9 To restart recording again.
- Press the PAUSE (■■) switch again.

STOPPING PLAYING AND RECORDING

1 Press the STOP (■) switch.

2 Press the EJECT button and take out the tape.

Questions (Q) and answers (A) on recording

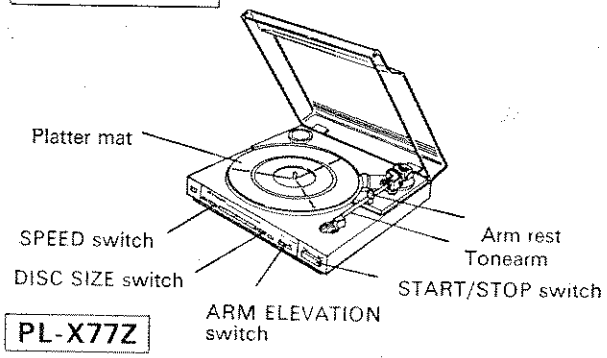
Q: How is the recording level adjusted?

A: This unit has a built-in automatic level control which dispenses with the need to adjust the recording level.

Q: What is the difference between the operation of playing a tape in one deck and recording the output onto a tape in another deck (tape dubbing), and tape copying?

A For tape dubbing, Dolby NR is used on the playback side hence the recording side is always a normal recording. In other words, a tape which has been made by tape dubbing is always played back with Dolby NR OFF.

TURNTABLE



PL-X77Z

RECORD PLAY

1 Press the FUNCTION switch and set it to PHONO.

2 Place the record on the platter mat.

3 Remove the stylus cover and release the tonearm from the arm rest.

4 Set the SPEED switch.

5 Move the arm elevation lever to the UP position.

6 Move the tonearm by hand across the record. At this stage, the platter starts to rotate.

7 Move the arm elevation switch to the DOWN position.

8 To stop the player while a record is **being played, press the CUT switch**

PL-X88Z

RECORD PLAY (Auto play)

1 Press the FUNCTION switch and set it to PHONO.

2 Place the record on the platter mat.

3 Remove the stylus cover and release the tonearm from the rest.

4 Set the SPEED and DISC SIZE (SIZE) switches.

5 Move the arm elevation switch to the DOWN position.

6 Push the START/STOP switch to start record play.

7 To stop the player while a record is being played, press the START/STOP switch.

NOTE:
- *When play is completed, the tonearm will return automatically to the arm rest.*
- *When playing 45 rpm records with large center holes, place the EP adaptor onto the platter shaft.*

Beginning Record Playback From Any Point (Manual Play)

1 **Press the FUNCTION switch and set it to PHONO.**

2 Place the record on the platter mat.

3 Remove the stylus cover and release the tonearm from the arm rest.

4 Set the SPEED switch.

5 Move the arm elevation switch to the UP position.

6 Move the tonearm by hand to the desired position over the record.

7 Move the arm elevation switch to the DOWN position.

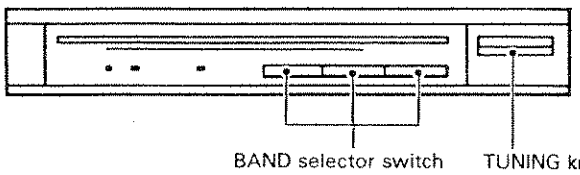
- The tonearm will descend onto the record and playback will start.

8 To stop the player while a record is being played, press the START/STOP switch.

TUNER

F-X77Z (L)

The illustration shows model F-X77ZL.



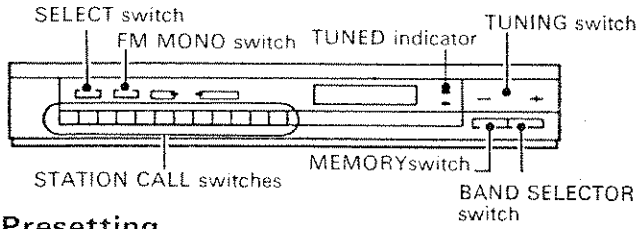
FM AND AM (MW/LW) RECEPTION

1 Press the FUNCTION switch and set it to TUNER.

2 **Press the appropriate BAND selector switch on the stereo tuner.**

3 Rotate the TUNING knob and tune in the desired station.

F-X88Z (L)



Presetting

1 Begin receiving.

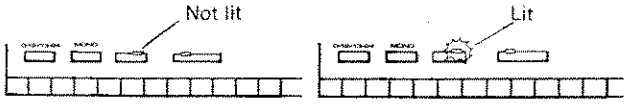
- For manual tuning, refer to Manual Tuning.

When memorizing an FM station, either press the FM MONO switch to forcibly memorize the station in the monaural mode, or memorize the station in the auto stereo mode (with FM MONO switch left in the OFF position).

2 Press the select switch to select Mode 1 or Mode 2.

When presetting using Mode 1 STATION CALL switches: Not lit

When presetting using Mode 2 STATION CALL switches: Lit



3 Press the MEMORY switch. During the approximate ten seconds within which the memory circuit functions, push the desired STATION CALL switch to memorize the current frequency in that switch.

- When the flashing of the frequency indicator goes out, presetting is no longer possible. Press the Memory switch switch again to perform presetting.

4 Repeat steps 1 to 3 to preset station into buttons 1 through 24.

- Up to 24 AM (MW and LW) and FM stations may be preset. If you accidentally preset a station into a STATION CALL switch which contains information, it will be erased and the new station will be entered instead.

Reception using preset tuning

1 Press the STATION CALL switch into which the desired station has been preset. (When necessary, do not neglect to perform Station Mode selection as well.)

Tuning can be performed simply and accurately by following the above procedure.

NOTE:

- *The contents of the STATION CALL switch will be preserved for several days, even if the deck amplifier's power cord is unplugged.*
- *If a preset station has been erased, reset it.*

Manual tuning (FM/AM reception)

1 Press the FUNCTION switch on the cassette deck amplifier and set it to TUNER.

2 Press the FUNCTION switch and set it to TUNER.

3 Select your desired broadcasting band using the BAND SELECTOR switch.

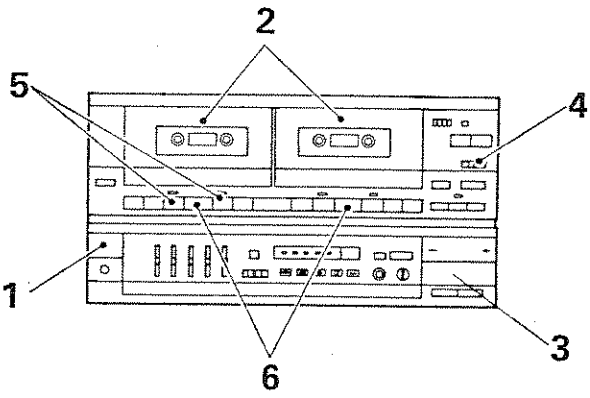
4 Use the TUNING switch to locate the frequency of your desired station.

For step-by-step searching, press the TUNING switch once and release it immediately. For continuous rapid scanning keep the TUNING switch pressed. The TUNED indicator will light up when the desired station is tuned in best.

NOTE:

The TUNED indicator will not function for broadcasts received over long distances or when signals are weak.

RELAY PLAYBACK



When the auto-stop mechanism of deck I is activated after reverse playback, the tape in deck II automatically starts playing in the forward mode, it continues in the reverse mode and then stops. Relay playback can do from deck II to deck I, and deck I to deck II.

1 Press the POWER switch to the on position.
2 Load the playback tapes into deck I and deck II.
3 Press the FUNCTION switch and set it to TAPE.
4 Set the REVERSE MODE switch to RELAY PLAY.
5 Press the PLAY switch (▶ or ◀) on deck I.

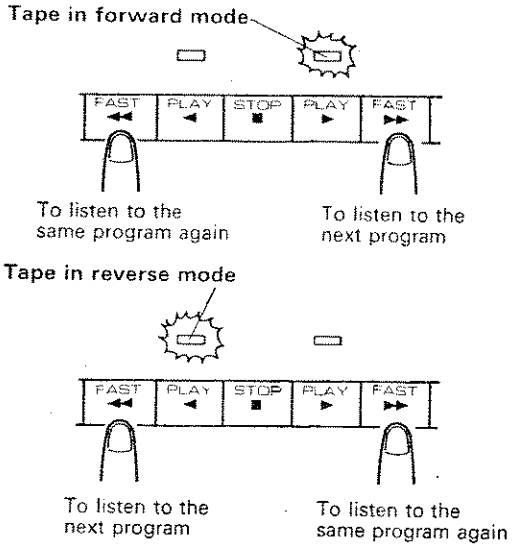
- RELAY PLAY will stop after six consecutive times.
- The tape in deck I starts playing back. When it stops automatically as it comes to the end of the reverse side, the tape in deck II will start playing.
- The tape in deck II will stop automatically when it comes to the end of its reverse side.

6 To stop relay playback, press the STOP switch (■) of the operating deck.

MUSIC SEARCH

You can perform music search during playback by carrying out the following operation.

1 To listen to the program following the program on the tape now being heard, simply press the fast forward switch. To listen again to the program now being heard, press the rewind switch.



- During a music search, the indicator corresponding to the direction in which the tape is advancing will flash.

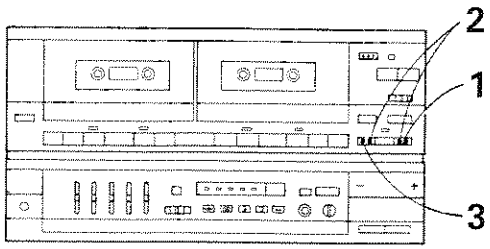
When doing music search, do not operate the other deck. Doing so may affect the track interval detection function.

NOTE:
When performing a music search on the following kinds of tape, the unit may misoperate. This is not a fault, however.
- *When using a tape which has non-recorded portions between tracks less than 4 seconds in length.*
- *When using a tape which has a high noise level between tracks.*
- *When using a tape which has low level or silent passages of several seconds in the same track, such as in the case of classical music.*
- *When using tape, such as a conversation tape, in which the voice is intermittent.*
- *When using a tape in which an extremely low sound level continues for at least 4 seconds in the same track.*
- *When using a tape which has very low level recorded portions that continue for at least 4 seconds.*

2 When the tape is fast forwarded or rewound and an unrecorded blank between programs is located, the tape will then be played back.

RECORDING MUTING

During recording you can make non-recorded passages while listening to the input signal. Use this function to create non-recorded portions of at least 4 seconds, which are necessary for performing a music search.



1 When the tape arrives at the point where a non-recorded portion is to be created, depress the REC MUTE switch (o) continuously.

2 After about 4 seconds, press the PAUSE (■■) switch while keeping the REC MUTE switch depressed.

- The unit will go into a pause condition, and the PLAY indicator will flash.

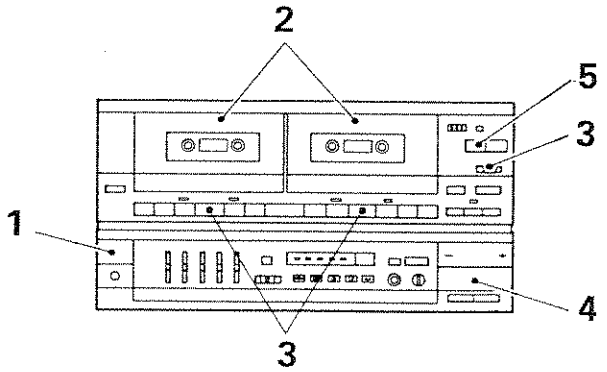
3 To resume recording, press the PAUSE (■■) switch once again.

- You can also use the PLAY switch instead of the PAUSE (■■) switch.

If you press the REC MUTE switch while recording is taking place, a non-recorded portion will be created. Be careful, therefore, not to depress the switch other than when necessary.

NOTE:
REC MUTE switch does not operate in tape copy mode.

COPYING TAPES



Duplicating the recorded contents of one tape onto another tape is known as tape copying. The contents of the tape in deck I can be copied onto the tape in deck II (but not vice versa). Copying is not possible even if the COPY switch is pressed while either deck is operating. You cannot record a source using the graphic equalizer.

If a tape recorded with the Dolby NR system is copied, the copied tape will also be recorded automatically with Dolby NR system. If a tape recorded in the normal mode is copied, the copied tape will also be recorded automatically in the normal mode.

COPYING A TAPE WHILE LISTENING TO IT

1 Press the POWER switch to the on position.

2 Load the pre-recorded tape into deck I and the copying tape into deck II.

3 Select the REVERSE MODE switch.

REVERSE MODE switch	Operation
Single-side recording	One side is copied from deck I to deck II.
Double-sided recording	Both sides are copied from deck I to deck II.

4 Set the FUNCTION switch to TAPE.

Even if the FUNCTION switch is set to another position, tape copying will still proceed, regardless of the switch position. The sound of the program source selected by the FUNCTION switch will be heard through the speakers.

5 Press the NORMAL switch among the SYNCHRO COPY switches.

- Deck I plays back while deck II records.
- When the tape comes to the end due to the reverse mode setting, it will automatically stop.

6 Press the STOP switch (■) on either deck to stop the copying at any time.

Copying a tape in half the time (at double the speed)

1 **Press the POWER switch to the on position.**
2 **Load the pre-recorded tape into deck I and the copying tape into deck II.**
3 **Select the REVERSE MODE switch.**
- Operation is the same as for "Copying a tape while listening to it."

4 **Press the HIGH switch among the SYNCHRO COPY switches.**

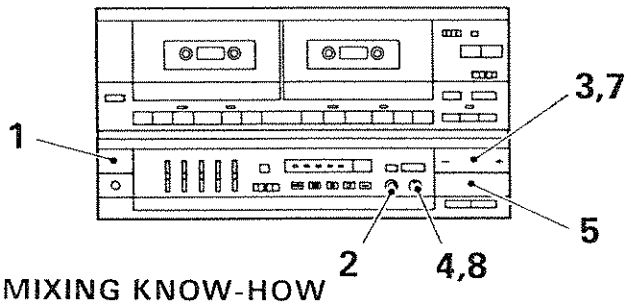
Tape copying proceeds, regardless of the FUNCTION switch position. The sound of the program source selected by the FUNCTION switch will be heard through the speakers.

- When the tape comes to the end due to the reverse mode setting, it will automatically stop.

5 **Press the STOP switch (■) on either deck to stop the copying at any time.**

NOTE:
If you are using a TV in the vicinity of the unit, noise will be recorded. Either switch off the TV or move it away from the unit.

MIKE MIXING FOR SINGING ALONG WITH RECORDED ACCOMPANIMENT



MIXING KNOW-HOW

Mixing involves combining the signals from two input sources (a microphone and a tape, for example).

SINGING ALONG WITH A SOURCE

1 **Press the POWER switch to the ON position.**
2 **Plug a microphone into the MIC jack.**
3 **Adjust volume to a suitable level.**
4 **Set the MIXING control to the center position.**
- If howling occurs (a high-pitched sound from the speakers), take the following steps.
  (1) Move the mike away from the speakers.
  (2) Lower the volume.

5 **Select the desired program source using the FUNCTION switches.**
6 **Start playback of the program source.**
7 **Adjust the volume.**
8 **Using the MIXING control, adjust the sound balance between the mike and the program source.**
9 **Sing along with the program using the microphone. Because both MIC and SOURCE inputs are controlled together by the mixing function, the mixing control can also be used as a manual fader when recording.**
- Fading refers to the recording technique in which the volume of an input source is gradually increased or decreased.

MIXING RECORDING

You can use the mixing feature to record input from a microphone and another source together.

1 **Perform steps 1 to 8 in the section "SINGING ALONG WITH A SOURCE."**
2 **Load a tape for recording into deck II.**
3 **Press the REC (●) switch on deck II.**
4 **Sing along with the program source.**

NOTE:
When not using the MIXING function, be sure to set the MIXING control to the SOURCE position.

SURROUND SYSTEM (Not applicable to U.K., European, Australian, U.S. models)

What is surround sound?

With ordinary stereo, sound normally comes only from speakers in front of the listener. In a concert hall or theater though, sound reflected from the walls and ceiling reaches the listener from all directions. This is what accounts for the feeling of ambience or spaciousness of a live performance. Surround sound works to reproduce these effects to produce fuller, more "live" sound.

NOTE:
If the S-X1A, etc. surround speaker systems (sold separately) are used they will reproduce normal stereo sound when the SURROUND switch is not pressed.

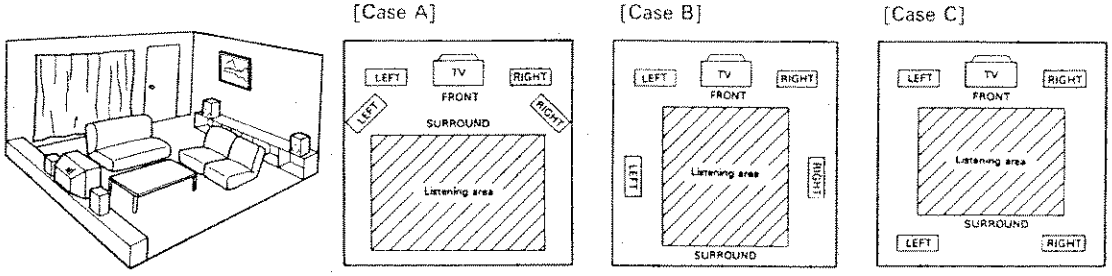
Speaker System Placement Examples

The sound effects obtained in a surround system depend on speaker placement. Experiment with various arrangements to find the one most suited to your tastes.
Placing the speakers so that they are slightly higher than ear level contributes to sound quality.

[Case A]
Good sound dispersion; recommended for movies, etc.

[Case B]
Sound appears to come from directly in front of listener. Good for listening to music recordings.

[Case C]
Offers most varied effects; good for watching sports programs or listening to live recordings.



RECORDING AND PLAYBACK USING THE AUDIO TIMER

When not using the timer recording or playback, be sure to set the TIMER siwtch to OFF position.

UNATTENDED RECORDING

You can record a source at any desired frequency characteristics using the graphic equalizer.

1. Set to TIMER switch to OFF.
2. Set the cassette tape deck amplifier's POWER switch to on.
3. Load a tape for recording into deck II.
4. Select the DOLBY NR switch.
5. Select the REVERSE MODE switch.
6. Press the FUNCTION switch and set it to tuner.
   - Receive the broadcast which you wish to record.
7. Turn down the volume.
8. Set the audio timer so that the power comes on at the desired time. (Power to the components should be off at this point.)
9. Set the TIMER switch to REC.

WAKE-UP PLAYBACK

1. Set to TIMER switch to OFF.
2. Set the cassette tape deck amplifier's POWER switch to on.
3. Load the tape for playing into deck I.
4. Press the FUNCTION switch and set it to TAPE.
5. Select the DOLBY NR switch.
6. Select the REVERSE MODE switch.
7. Adjust the volume control to produce the level of volume required when timer playback starts.
8. Set the time on the audio timer so that the power comes on at the desired time (this action switches off the power to the audio components).
9. Set the TIMER switch to SOURCE.
10. Power will be turned on automatically at the preset time and playing in the forward direction will start.

Operations will vary according to the audio timer used. For details, see the operating instructions supplied with the timer.

MAINTENANCE

CLEANING THE HEAD SECTION

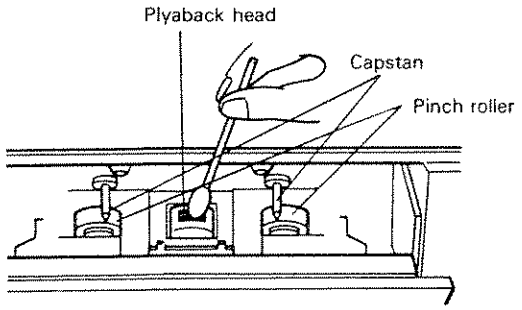
The heads, capstan and pinch roller are parts which are liable to get dirty quite easily. In particular, if the heads are dirty, the high frequency components of the sound will not be reproduced and the stereo balance will be impaired, resulting in a deterioration in sound quality. It is therefore recommended that the head section be cleaned regularly.

- Push the EJECT button to open the cassette door.
- Dip a cleaning swab into head cleaning fluid and use it to wipe the heads, capstan, and pinch roller.

DEMAGNETIZING THE HEAD

The recording/playback head becomes magnetized when you use the tape deck for prolonged periods of time. This results in noise being generated and the treble dropping off during recording and playback. The recording/playback head should therefore be demagnetized regularly with a head demagnetizer (sold separately).
For further details, refer to the operating instructions accompanying your head demagnetizer.

NOTE:
- *Do not hold screwdrivers, metal objects or magnets close to the heads.*
- *When demagnetizing the heads, be sure the unit's POWER switch is in the OFF position.*



NOTE:
- *This unit uses a head-slant standby system, with the result that the heads are mounted at an angled position.*
- *Clean the rec/playback head as shown in the above drawing.*

CLEANING THE UNIT

Wipe the front panel and the cassette door when dusty or greasy with a soft cloth containing a small amount of ordinary clean up liquid. Then wipe dry with a cloth. Never use volatile spirits like thinners, benzine or alcohol, as they will damage the panel's finish.

ADJUSTING THE STYLUS DESCENT POSITION (PL-X88Z only)

Proceed as follows when the stylus does not descend at the proper position on the record during auto play. While performing the adjustment, take care not to scratch the record with the stylus.

1 **Place a 30 cm LP record on the platter.**

2 **Push the START/STOP switch to start auto play.**
- Check the direction and amount of stylus deviation (how many millimeters toward the inside or outside of the record's lead-in groove).

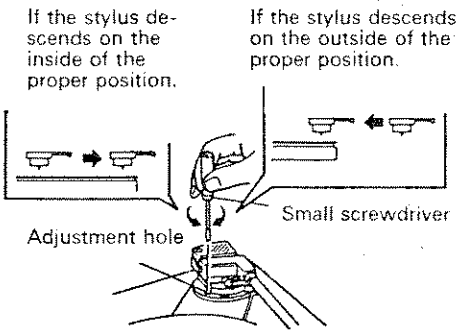
3 **Push the START/STOP switch to return the tonearm to the arm rest.**

4 **Set the arm elevation switch to the UP position and manually move the tonearm across the outside edge of the record.**

5 **Rotate the screw with a small screwdriver in accordance with the direction of the deviation observed in step 2.**
- Rotate the screw clockwise if the stylus descends on the outside of the proper position.
- Rotate the screw counterclockwise if the stylus descends on the inside of the proper position.

6 **Manually return the tonearm to the arm rest and set the arm elevation switch to the DOWN position.**

7 **Push the START/STOP switch and check that the stylus stops at the lead-in groove on the outer circumference of the record. If the position is still not correct, repeat steps 2 to 6.**


If the stylus descends on the inside of the proper position.
If the stylus descends on the outside of the proper position.
Small screwdriver
Adjustment hole

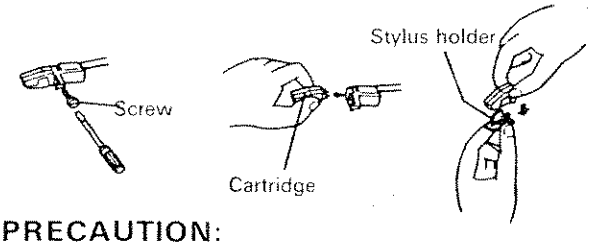
REPLACING THE STYLUS

1 Remove the screw.
2 Pull the cartridge.
3 Remove the stylus gently.
4 Attach the new stylus to the cartridge and replace the screw.

NOTE:
- *The service life of the stylus on the supplied cartridge ranges from 800 to 1,000 hours.*
- *Using a worn or damaged stylus can damage your records and distort the sound reproduction. Remember to replace the stylus at the earliest possible date.*
- *Always use the PIONEER "PN-295T" as a replacement stylus.*
- *Always ask for a genuine PIONEER replacement stylus.*

T4P is the universal mark for the Plug-in connector system. Products carrying this mark are interchangeable and can be used together.

Remove the screw Pull the cartridge. Remove the stylus



PRECAUTION:

If the turntable is mounted directly on or against a speaker, the vibration from the speaker will be transported to the tonearm's cartridge, thus causing feedback howling. Be sure that speakers are mounted sufficiently separated from the turntable.

TROUBLESHOOTING

Incorrect operations are often mistaken for trouble and malfunctions. If you think that there is something wrong with this component, check the points below. Sometimes the trouble may lie in another component. Investigate the other components and electrical appliances being used.
If the trouble cannot be rectified even after exercising the checks listed below, ask your nearest PIONEER authorized service center or your dealer to carry out repair work.

Cassette Deck/Amp

Symptom	Cause	Remedy
No sound from speakers.	• Is volume level turned down? • MIC MIXING control is at MIC side.	• Increase volume level. • Set MIC MIXING control to SOURCE side.
Tape deck will not work.	• Is deck in pause mode? • Is tape loaded correctly?	• Press PAUSE (■■) switch to release pause mode. • Load correctly.
No sound from tape deck.	• FUNCTION switch has been set to any position except TAPE. • Is a blank tape loaded? • Are heads clean?	• Set FUNCTION switch to TAPE. • Load a pre-recorded tape. • Clean heads.
Recording not possible.	• Is tape loaded in Deck I? • Are heads clean? • Is cassette tab broken?	• Load blank in Deck II for recording. • Clean heads. • Apply tape over tab hole. (See page 12.)
High frequency sounds not reproduced.	• Are heads clean? • Is a non-Dolby tape being played back with the Dolby NR system on?	• Clean heads. • Turn off the Dolby NR system.
High frequencies over-emphasized.	• Is a Dolby NR tape being played back with the Dolby NR system off?	• Turn on the Dolby NR system.
Noise picked up during recording of tape, record, radio, etc.	• Is power to TV set turned on? • Is unit located too close to TV set?	• Turn off TV set. • Move unit at least 30 cm from TV set.

Stereo Tuner

No sound	• FUNCTION switch has been set to any position except TUNER.	• Set FUNCTION switch to TUNER.
AM reception not possible.	• Is loop antenna connected? • Is band selector switch set to AM? • Is station tuned in properly?	• Connect loop antenna. • Set band selector switch to AM. • Tune in station properly.
FM reception not possible	• Is antenna connected? • Is band selector switch set to correct position?	• Connect antenna, following instructions on page 6. • Set band selector switch to FM.
Large amount of noise	• Are radio waves weak, causing antenna input to be insufficient?	• Switch OFF the CD player.

Turntable

Turntable does not work.	• Is drive belt properly attached?	• Attach belt correctly.
No sound.	• FUNCTION switch has been set to any position except PHONO.	• Set FUNCTION switch to PHONO.
Static, scratching noise produced.	• Is record surface dirty? • Is record warped or scratched?	• Clean record. • Replace record.
Stylus does not descend at correct position. (PL-X88Z only)	• Is descend position set correctly? • Is record a special size?	• Adjust descent position as explained on page 20. • Change record or play back manually.

SPECIFICATIONS

Cassette tape deck amplifier: DC-X88Z

Continuous Power Output
- Music power (both channel driven) . . . . . 65W + 65W (1kHz, T.H.D. 1%, 8 ohms)
- Peak music power (music power x 2) L, R total. . .260W
- 1 kHz (DIN). . . . . 40W + 40W (T.H.D. 1% 8ohms)
- 1 kHz (DIN music power) . . . . . 65W + 65W (T.H.D. 1% 8 ohms)

Graphic equalizer frequency band. . . . . .100 Hz, 300 Hz, 1 kHz, 3,3 kHz, 10 kHz, ±7 dB

Hum and Noise (IHF, short-circuited, A network)
- PHONO. . . . . .72 dB

Hum and Noise (DIN continous Power/50 mW)
- PHONO. . . . . 68 dB/60 dB

Total Harmonic Distortion
- (40 Hz to 20,000 Hz, 16W, 8 ohms) . . No more than 0.2%

Tape Deck Section

Systems. . . . . 4 track, 2-channel stereo

Heads . . . . . Recording/playback head x 1
Playback head x 1
Erasing head x 1

Motor . . . . . DC servo 2 speed motor x 2

Wow and Flutter . . . . . .No more than 0.09% (WRMS)
No more than 0.25% (DIN)

Fast Winding Time. . . . . .Approximately 95 seconds (C-60 tape)

Frequency Response
- –20 dB recording:
- Normal tape . . . . . .35 Hz to 14,000 Hz ±6 dB
- CrO_2 . . . . . .35 Hz to 15,000 Hz ±6 dB
- Metal tape . . . . . .35 Hz to 16,000 Hz ±6 dB

Signal-to-noise Ratio
- Dolby NR OFF. . . . . .56 dB

Noise Reduction Effect
- Dolby B type NR ON. . . . . More than 10 dB (at 5 kHz)

Furnished Parts

Operating Insturctions 1
Turntable legs parts 2
Remote control unit 1
Dry cell batteries. 2

Miscellaneous

Power requirements
- European model.....a.c. 220 Volts~, 50/60 Hz
- U.K. and Australian models .....a.c. 240 Volts~, 50/60 Hz
- Other destination models
- ..... AC 110/120 - 127/220/240 V (switchable) 50/60 Hz

Power Consumption
- European model.....250 W
- U.K. and Australian models .....250 W
- Other destination models .....320 W

Dimensions . . . . . 360 (W) x 190.5 (H) x 285 (D)mm
14-3/16 (W) x 7-1/2 (H) x 11-1/4 (D) in

Weight (without package) . . . . . 7.2 kg (15 lb 14 oz)

FM/AM tuner: F-X88Z (L)

FM Tuner Section

Frequency range . . . . . .87.5 MHz to 108 MHz
Usable Sensitivity . . . . . 12.7 dBf, IHF (1.2μV/75 ohms)
50 dB Quieting Sensitivity. . . . . Mono: 18 dBf (2.2μV/75 ohms)
Stereo: 38.3 dBf (22.6μV/75 ohms)
Sensitivity (DIN). . . . . .Mono 0.9μV/75 ohms
Stereo: 31.5μV/75 ohms
Signal-to-Noise Ratio (IHF, 85 dBf Input)
. . . . . .Mono: 77 dB
Stereo: 73 dB
Signal-to-Noise Ratio (DIN). . . . . .Mono: 62 dB
Stereo: 60 dB
Distortion . . . . . Stereo: 0.5% (1 kHz)
Alternate Channel Selectivity. . . . . 60 dB (400 kHz)
Stereo Separation . . . . . .40 dB (1 kHz)
Frequency Response . . . . . .±1 dB (30 Hz to 15 kHz)
Image Interference Ratio . . . . . .38 dB
IF Interference Ratio. . . . . .110 dB
Antenna Input . . . . . 300 ohm balanced
75 ohm unbalanced
Output Level (FM 100% MOD) . . . . . 650 mV

MW (AM) Tuner Section

Frequency range
When 10 kHz step . . . . . .530 kHz to 1,600 kHz
When 9 kHz step. . . . . .531 kHz to 1,602 kHz
Sensitivity (IHF, Loop antenna). 350μV/m
Selectivity . . . . . .20 dB
Signal-to-Noise Ratio . . . . . .45 dB
Image Interference Ratio . . . . . .40 dB
IF Interference Ratio. . . . . .50 dB
Antenna . . . . . .Loop Antenna
Output Level (AM 30% MOD) 150mV

LW Tuner Section (For LW-equipped models only)

Frequency range . . . . . .153 kHz to 281 kHz
Sensitivity (IHF, Loop antenna) . . . . . .1500 μV/m
Selectivity . . . . . .20 dB
Signal-to-Noise Ratio . . . . . .45 dB
Image Interference Ratio . . . . . .30 dB
IF Interference Ratio. . . . . .50 dB
Antenna . . . . . .Loop Antenna
Output Level (AM 30% MOD) . . . . . 150 mV

Miscellaneous

Dimensions ..... 360(W) × 56(H) × 215(D) mm
14-3/16(W) ×2-3/16(H) × 8-1/2(D) in

Weight (without packge) ..... 1.8 kg (4 lb)

Furnished Parts

FM T-type antenna 1
AM Loop Antenna 1

FM/AM tuner: F-X77Z (L)

FM Tuner Section

Frequency range . . . . . 88 MHz to 108 MHz
Usable Sensitivity . . . . . 15.3 dBf, IHF (1.6μV/75 ohms)
50 dB Quieting Sensitivity
. . . . . Mono: 23.3 dBf (4.0μV/75ohms)
Stereo: 41.2 dBf (31.4μV/75 ohms)
Sensitivity (DIN) . . . . . Mono: 1,3μV/75 ohms
Stereo: 35.4μV/75 ohms
Signal-to-Noise Ratio (IHF, 85 dBf Input)
. . . . . Mono: 77 dB
Stereo: 73 dB
Signal-to-Noise Ratio (DIN) . . . . . Mono: 66 dB
Stereo: 60 dB
Distortion . . . . . Stereo: 0.4% (1 kHz)
Alternate Channel Selectivity . . . . . 55 dB (400 kHz)
Stereo Separation . . . . . 40 dB (1 kHz)
Frequency Response . . . . . 30 Hz to 15 kHz (±1 dB)
Image Interference Ratio . . . . . 38 dB
IF Interference Ratio . . . . . 80 dB
AM Suppression Ratio . . . . . 50 dB
Antenna Input . . . . . 300 ohm balanced
75 ohm unbalanced
Output Level (FM 100% MOD) . . . . . 650 mV

MW (AM) Tuner Section

Frequency range
U.K., Australian and European models
. . . . . 531 kHz to 1,602kHz
Other destination models . . . . . 530 kHz to 1,600 kHz
Sensitivity (IHF, Loop antenna) 250μV/m
Selectivity . . . . . 22 dB
Signal-to-Noise Ratio . . . . . 50 dB
Image Interference Ratio . . . . . 40 dB
IF Interference Ratio . . . . . 50 dB
Antenna . . . . . Loop Antenna
Output Level (AM 30% MOD) . . . . . 150 mV

LW Tuner Section (For LW-equipped models only)

Frequency range . . . . . 153 kHz to 281 kHz
Sensitivity (IHF, Loop antenna) 890μV/m
Antenna . . . . . Loop Antenna
Output Level (AM 30% MOD) . . . . . 150 mV

Miscellaneous

Dimensions . . . . . 360 (W) x 56 (H) x 217 (D)mm
14-3/16 (W) x 2-3/16 (H) x 8-9/16 (D) in
Weight (without package) . . . . . 1.6 kg (3lb 8oz)

Furnished Parts

FM T-type Antenna 1
AM Loop Antenna 1

Turntable: PL-X88Z/PL-X77Z

Motor, Platter

Motor Type . . . . . DC servo motor
Drive Method . . . . . belt drive
Speed . . . . . 33-1/3, 45 RPM
Speed Variation . . . . 0.05% WRMS (JIS ±0.07% WTD) Peak (DIN)
S/N Ratio . . . . . 68 dB (DIN-B)
Platter . . . . . 304mm dia., aluminum die-cast

Tonearm

Type . . . . . static-balance type, straight tonearm

Installed Cartridge (PC-295T)

Type . . . . . MM type
Replacement Stylus PN-295T
Stylus . . . . . 0.6 mil diamond
Output voltage 2.5 mV (1 kHz, 5 cm/s, Lat. peak)
Tracking Force . . . . . 1 – 1.5 g (optimum 1.25 g)
Frequency Response . . . . . 10 Hz to 30,000 Hz
Load Resistance . . . . . 50 kΩ
Cartridge Weight . . . . . 6 g

Other

Dimensions . . . . . 360W x 96.5H x 384D (mm)
Weight
PL-X88Z . . . . . 3.2 kg (7 lb 1 oz)
PL-X77Z . . . . . 3.1 kg (6 lb 14 oz)

Accessories

45-RPM Adaptor 1

System Accessories

Operating Insturctions 1

Specifications and design subject to possible modifications without notice due to improvement.

INFORMATION TO USER [FOR U.S. MODEL]

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- reorient the receiving antenna
- relocate this equipment with respect to the receiver
- move this equipment away from the receiver
- plug this equipment into a different outlet so that equipment and receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful:
"How to Identify and Resolve Radio-TV Interference Problems".
This booklet is available from the US Government Printing Office, Washington, D.C., 20402, Stock No. 004-000-00345-4.

The above instructions apply only to units which will be operated in the United States.

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